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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,456	03/29/2006	John Reid	BJS-620-415	4449
23117 7590 08/11/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
ENSEY, BRIAN				
ART UNIT		PAPER NUMBER		
2615				
MAIL DATE		DELIVERY MODE		
08/11/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/567,456

**Applicant(s)**

REID, JOHN

**Examiner**

Brian Ensey

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,6-8,10-12 and 17 is/are rejected.  
7) ☒ Claim(s) 2-5,9,13-16 and 18-20 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-85/06)  
Paper No(s)/Mail Date 2/7/06, 7/10/06 & 11/2/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 10-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenny U.S. Patent No. 3,407,897 in view of Charriere FR 2,308,156A.

Regarding claim 1, Jenny discloses an electro-acoustic device for creating patterns of particulate matter (See col. 5, lines 28-30), the device comprising a housing one end of which is open, a diaphragm (k) extending across the housing at or adjacent the open end of the housing, a mass of particulate matter (See col. 2, lines 5-10) located on the diaphragm, and, within the hollow interior of the housing (h), an electro-acoustic transducer (y), the arrangement being such that, in use with the diaphragm extending horizontally and on activation of the transducer by an audio signal, the acoustic output therefrom excites the diaphragm and creates a pattern in the particulate matter thereon indicative of the audio signal (See Figs. 4-10 and col. 1, line 64 to col. 2, line 15 and col. 2, lines 49-51). Jenny does not expressly disclose the device comprising a closed housing when the diaphragm is extended across an open end. However, the use of a closed housing to generate an optical image of an acoustic signal is well known in the art and Charriere teaches a closed box for generating an optical image of an acoustic signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the open housing of Jenny with the closed box of Charriere to prevent sound waves from escaping the open housing.

Regarding claim 6, the combination of Jenny in view of Charriere further discloses the diaphragm comprises a tensioned sheet of elastic material extending across the housing (See Jenny col. 5, lines 3-7).

Regarding claim 7, the combination of Jenny in view of Charriere further discloses the tension in the sheet is adjustable (See Jenny col. 5, lines 15-23).

Regarding claim 8, the combination of Jenny in view of Charriere further discloses including tensioning means for tensioning and tuning the diaphragm (See Fig. 4, p, q, r and col. 5, lines 24-27).

Regarding claims 10 and 11, the combination of Jenny in view of Charriere further discloses the particulate matter is crushed quartz crystal of different sizes (See Jenny col. 2, lines 8-11). The combination of Jenny in view of Charriere does not limit the size to between 250 and 1000 microns. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to use a grain size small enough to be vibrated by the driver and produce an optical image of the acoustic sound wave (See Jenny col. 5, lines 28-44).

Regarding claim 12, the combination of Jenny in view of Charriere further discloses the electro-acoustic transducer is a loudspeaker located coaxially within the housing with its acoustic output directed towards the underside of the diaphragm (See Jenny Fig. 4).

Regarding claim 17, the combination of Jenny in view of Charriere further discloses means whereby moving images of modal patterns, representative of a recorded sound track, may be viewed in synchronism with the sound track (See Charriere Figure and abstract. Image is projected on to screen 14).

***Allowable Subject Matter***

Claims 2-5, 9, 13-15, 16 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:00 AM - 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni can be reached on 571-272-7505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, Va. 22313-1450

**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".  
Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Arlington, VA 22314

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Ensey/  
Primary Examiner, Art Unit 2615  
August 7, 2008

16. A device as claimed in claim 1 and including a video camera located above the diaphragm and arranged to transmit signals to a remote viewing location whereby the patterns in the particulate matter can be viewed at said location.

18. A device as claimed in claim 1 and including means whereby individual computer-stored modal patterns, may be accessed from memory in real time and viewed as moving modal patterns, on a visual display, representative of and in synchronism with the sound track.

19. A device as claimed in claim 1 and including means whereby moving images of computer-stored modal patterns, representative of a live sound performance, may be viewed in real time, during progress of the performance.

20. A method of tuning an electro-acoustic device according to claim 1, which method includes the steps of applying a tuning audio signal to the diaphragm, and adjusting the tensioning means so that the pattern formed on the diaphragm matches a predetermined tuning pattern associated with the tuning audio signal.